

What is claimed is:

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- 5 1. A method for running a plurality of tests concurrently to obtain electrophysiological data, said method comprising the steps of:
  - (a) providing a plurality of recording stations, each of said recording stations containing at least one test subject;
  - 10 (b) introducing at least one test material into each of said plurality of recording stations; and
  - (c) collecting data from each of said plurality of recording stations concurrently.
- 15 2. The method of claim 1, wherein each of said recording stations comprises:
  - (a) a means for holding said test subject;
  - (b) a means for measuring the electrical response of said test subject to said at least one test material.
- 20 3. The method of claim 2, wherein each of said recording stations further includes a means for controlling the electrical environment of said test subject.
- 25 4. The method of claim 1, wherein said at least one test material is introduced by means of a fluid stream.
5. The method of claim 1, wherein said at least one test material is introduced by means of an applicator.
- 30 6. The method of claim 5, wherein said applicator is automated.

7. The method of claim 1, wherein said plurality of tests are run with the aid of a control system.

8. The method of claim 7, wherein said control system is capable of  
5 carrying out at least one of:

- (a) scheduling;
- (b) recording data;
- (c) altering at least one parameter during a run;
- 10 (d) storing data;
- (e) analyzing data.

9. The method of claim 8, wherein said at least one parameter is  
selected from the group consisting of flow rate of test material, start time of test  
15 material application, stop time of test material application, duration of introduction  
of test material, recovery period of test subject, name of control material,  
concentration of control material, control repetition interval, digital sampling rate,  
temperature of said test subject, and electrophysiological holding potential.

10. The method of claim 8, wherein said control system identifies the  
condition of said test subject.

11. An apparatus for running a plurality of tests concurrently to obtain  
electrophysiological data, said apparatus comprising:

- (a) a plurality of recording stations for holding a plurality of test  
subjects, at least one test subject per recording station;
- (b) a means for dispensing at least one test material into each of said  
recording stations;
- 30 (c) a means for controlling said (a) and said (b).

12. The apparatus of claim 11, wherein each of said recording stations further includes a set of electrodes for monitoring and controlling the electrical environment of said test subject.

5 13. The apparatus of claim 12, wherein each of said recording stations further includes elements for manipulating said electrodes.

14. The apparatus of claim 11, further including a means for analyzing data.

10 15. The apparatus of claim 11, further including a means for collecting data.

15 16. The apparatus of claim 11, further including a means for storing data.

sub A3 17. The apparatus of claim 11, wherein said apparatus further includes a wash station for washing said applicator.

20 18. The apparatus of claim 11, wherein each of said recording stations further includes a means for washing said test subject.

sub A4 19. The apparatus of claim 17, wherein said means for washing said applicator is capable of washing the inside of said applicator, the outside of said applicator, or both the inside and outside of said applicator.

20. The apparatus of claim 11, further comprising a means for processing signals.

30 21. The apparatus of claim 20, wherein said signal processing means is capable of monitoring at least one electrical parameter.

22. The apparatus of claim 20, wherein said signal processing means is capable of converting an analog signal to a digital signal.

5 23. The apparatus of claim 11, wherein said means for controlling comprises a computer.

24. The apparatus of claim 11, wherein each of said recording stations comprises:

- 10 (a) a chamber for holding said test subject;  
(b) a set of electrodes; and  
(c) means for manipulating said electrodes

15 25. The apparatus of claim 24, wherein each of said recording stations further includes a liquid level controller to control the level of liquid in said chamber.

20 26. The apparatus of claim 24, wherein each of said recording stations further includes means for holding said electrodes.

27. The apparatus of claim 24, wherein each of said recording stations further includes an element for preventing movement of said test subject.

25 28. The apparatus of claim 11, wherein said means for dispensing at least one test material into each of said recording stations comprises an applicator.

30 29. The apparatus of claim 28, wherein said applicator includes:  
SUB (a) a means for reducing carryover; and  
AS (b) a means for allowing air to escape.

30. The apparatus of claim 28, wherein said applicator is capable of being adjusted with respect to position.

5 31. The apparatus of claim 28, further including a means for washing said applicator.

32. The apparatus of claim 31, wherein said means for washing said applicator comprises a wash station.

10 33. The apparatus of claim 24, further including a means for washing said chamber of said recording station.

34. The apparatus of claim 33, wherein said means for washing said chamber comprises a perfusion system.

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